

## **1. ARMS CONTROL AND STRATEGIC SECURITY**

*(Also see topics 2.1, 2.15, 5.39, 5.42, and 6.5)*

### **1.1 What are the policy implications of raising or lowering the nuclear threshold?**

- How would you raise or lower the nuclear threshold?
- Under which circumstances would you raise or lower the nuclear threshold?
- Would the development of smaller-yield nuclear weapons make it easier/more likely to cross that threshold?
- Contrast today's threshold with the Cold War threshold (general nuclear war, vice limited employment scenarios).
- What would steps in a contemporary escalation ladder look like?

Priority: 1

Key Terms: escalation, redlines, tactical nuclear weapons, RNEP, HDBTs, nonproliferation, first use, limited nuclear war, nuclear effects, nuclear threshold

### **1.2 Examine the role of nuclear weapons within the new strategic triad: what are the roles, missions, and tradeoffs of nuclear weapons within the concept of global strike?**

- What are the tradeoffs of nuclear weapons versus advanced conventional weaponry? When can/should one be substituted for the other?
- Are there specific targets that require a nuclear weapon (hard and deeply-buried targets (HDBT), CBW facilities)?
- Should nuclear weapons be used in retaliation for CBW use?
- Is increasing reliance on conventional global strike marginalizing US nuclear weapons and undermining US nuclear deterrence?
- Does US conventional preeminence create unintended incentives for nuclear proliferation?
- Do today's non-nuclear force capabilities meet future deterrence requirements?
- What impact do the laws of armed conflict have on nuclear weapon employment in the post Cold-War environment?
- Discuss suggested changes to nuclear doctrine and/or roles and missions for nuclear weapons in the post-Cold War environment.
- What measures of effectiveness should be used in assessing tradeoffs among the different legs of the triad?
- Discuss or suggest possible force structure requirements that might better enable the US to expedite realization of the new Triad.
- What is the future of the ICBM force, the bomber force, the SSBN force?
- Explore the possible consequences of nuclear first-use by the US or some other nation or non-state actor.
- What might be the international political, diplomatic, and strategic responses to the first use of a nuclear weapon in combat?

- What are the arms control implications of dual-use long-range ballistic missiles? (I.e. common missiles delivering conventional or nuclear weapons?)

Priority: 1

Key Terms: PGMs, HDBT, CAV, nuclear missions, non-nuclear weapons, global strike, New Triad

### **1.3 How do we engage US allies (East Asia, Europe, Russia, and South Asia) in US missile defense programs and initiatives? (Also see topic 1.20)**

- What is their role in the US missile defense posture?
- How will the US missile defense concept be integrated into NATO's strategic concept?
- Examine case studies in cooperative missile defense systems, such as:
  - US-Israel and Arrow program
  - US-Germany-Italy and MEADS (Medium Air Defense System). Examine the "black box problem."
  - US-Russia and JDEC (Joint Data Exchange Center), TMDX.
  - US-Japan and sea-based TMD.

Priority: 1

Key Terms: missile defense, NATO and strategic concept, Arrow program, MEADS, JDEC, TMDX, cooperative missile defense

### **1.4 How can we deter non-state actors from using WMD? (Also see topic 1.18)**

- Are different policy instruments required for deterring states and non-state actors?
- Does state-sponsorship alter this equation? How?
- Is it practical for terrorists to acquire or employ sophisticated delivery systems, including ballistic missiles?
- Will missile defense deter terrorists from WMD acquisition and use?
- Is deterrence inherently idiosyncratic—that is, unique to each actor?

Priority: 1

Key Terms: non-state actors, WMD acquisition and use, deterrence, state-sponsored terrorism

### **1.5 How should the US integrate missile defenses into the operational warfighting plan?**

- As the United States proceeds to deploy ballistic missile defenses, how will those deployments impact the offense/defense relationship?
- What new or alternative measures of effectiveness for evaluating our missile defenses should be considered?
- To what extent can missile defenses offset offensive strike forces?
- In which ways do missile defenses become a liability?

- What additional operational requirements are imposed?
- Do multiple kill vehicles (MKVs) on US interceptors undercut the argument that US missile defenses are not meant to defend against China or Russia?

Priority: 1

Key Terms: offense-defense mix, missile defense, war plan, national defense strategy, MKV

## **1.6 How has the concept of arms control evolved as an instrument of United States national security?**

- Can we use arms control “lessons learned” from the Cold War to promote US regional objectives?
- Should the US review further adherence to existing arms control agreements?
- Now that the US is the lone military superpower, should we negotiate differently?
- Citing past examples, discuss potential impact of the duration and unintended consequences of arms control.
- Should the US promote new initiatives in arms control?

Priority: 1

Key Terms: review conferences, negotiating tactics, INF, START, Moscow Treaty (SORT), CFE, CWC, arms control

## **1.7 NPT 2005 Review Conference Impacts**

- Assess the effectiveness of the global nonproliferation regime
- Propose suggestions for improving supplier regimes
- Suggest a strategy for the US to assist other nations in rationalizing their national export control laws in an effort to standardize laws that apply to all states
- Suggest ways to improve international cooperation within the NPT regime.
- Reassess the “core agreement” within the NPT between nuclear weapons states and non-nuclear weapons states

Priority: 1

Key Terms: NPT Review Conference, Nuclear Weapons states, Non-nuclear Weapons States, Nuclear Suppliers Group

## **1.8 What is the impact of the Missile Technology Control Regime (MTCR) on:**

- International cooperation on missile defense programs
- How can the United States reconcile its nonproliferation goals with its missile defense priorities and the global war on terrorism?
- How does the United States resolve legislative conflicts between domestic export control legislation and regional security interests?

- Do we need to revisit how we interpret our MTCR obligations in the current security environment?

Priority: 1

Key Terms: MTCR, missile defense, export control, regional security

## **1.9 How will arms control agreements impact future aerospace operations and force structure?**

- Would START, INF, or other agreements, need to be modified to optimize conventional ICBMs, or other conventional alternatives?
- What would be the political, financial, operational, compliance, and implementation ramifications?
- Will existing agreements conflict with US policy regarding USAF doctrine for space?

Priority: 1

Key Terms: UAVs, CAVs, space weapons, conventional ICBMs/SLBMs, INF

## **1.10 Future of the INF Treaty**

- Have changes in the European security environment changed the implication for the withdraw of INF Treaty? If not, what changes in circumstances might suggest such action?
- Describe the impact of the INF Treaty since entry into force
- What criteria should be considered for evaluating the termination or continuation of the INF Treaty?
- What are the consequences for missile defenses, counter-proliferation, and conventional systems?

Priority: 1

Key Terms: Missile Defense, Pershing Missiles

## **1.11 How do existing arms control agreements limit the integration of advanced technology into modern operational concepts?**

- Discuss the impact of advances in technology on arms control agreements (e.g. UCAVs, hypersonic weapons, non-lethal weapons, air-launched cruise missiles) in relation to any of the following treaties and/or agreements:
  - CFE or the adapted CFE regime
  - START
  - CWC (e.g. relationship between the regime and non-lethal weapons)
- Explore and discuss the escalatory nature of advanced conventional weapons

Priority: 1

Key Terms: UCAVs, hypersonic weapons, non-lethal weapons, air-launched cruise missiles

**1.12 What options should we consider regarding the disposition of START in 2009?**

- Given that START is referenced in the Moscow Treaty, do we need to reconcile the gap between the 2009 end of the START treaty, including its verification provisions, and the 2012 implementation deadline of the Moscow treaty?
- Suggest and discuss alternatives to START verification provisions that may bridge the gap between 2009 and 2012.
- Assess the cost/benefit tradeoffs of the START implementation regime.

Priority: 1

Key Terms: START, Moscow Treaty, verification

**1.13 Open Skies Treaty**

- How does the US benefit from conducting observation missions in the Open Skies Treaty?
- Conduct a cost/benefit analysis of the Open Skies treaty regime.
- What might be some other cost effective alternatives to the Open Skies treaty?
- Has the implementation of the Open Skies Treaty met or exceeded the initial expectations of the treaty's negotiators?

Priority: 1

Key Terms: OSCE, OC-135

**1.14 What factors are shaping future alliances as a tool of US national security?**

- How legitimate are existing alliances, such as NATO?
- What roles will coalitions play in future US security strategy?

Priority: 1

Key Terms: alliances, coalitions of the willing, NATO

**1.15 What are Islamic attitudes toward the legitimacy of international law and international agreements? (See topic 5.9)**

- Do they differ from those of the West?
- If so, what are the implications for the potential success of arms control and other diplomatic means to address global security issues such as proliferation?
- If so, discuss the implications regarding adherence to the laws of war

Priority: 1

Key Terms: Islamic law, international law, multilateral regimes, LOAC, LOW

**1.16 How does the United States reconcile the global preference for legally binding regimes with our own desire for maximum flexibility?**

- Why do our friends, allies, and prospective negotiating partners prefer legally binding arrangements?
- What is the difference between a legally binding agreement and a politically binding agreement?
- Explore US national defense, political, future planning, and institutional needs for flexibility compared to desires to minimize legally binding constraints.
- In what ways can flexibility be built into legally binding treaties?

Priority: 2

Key Terms: strategic arms control, treaties, agreements, Moscow Treaty (SORT), PSI, international law

**1.17 What are the prospects for rogue states to develop solid-fueled versus liquid-fueled missiles?**

- What are the prospects for conversion of SCUD missile technology to ICBM-range missiles?
- Are there low-cost and low-technology cruise missile threats?
- What is the impact on US boost phase missile defense systems?

Priority: 2

Key Terms: ballistic missile, cruise missile, SCUD, ICBM

**1.18 Deterrence-related issues (Also see topic 1.4)**

- What does deterrence mean today?
- Who are we trying to deter?
- What are we trying to deter?
- What are the requirements necessary for deterrence to function?
- How do we define deterrence success/failure?
- What are the consequences if deterrence fails?

Priority: 2

Key Terms: deterrence, minimum deterrence, strategic deterrence, inter-war deterrence

**1.19 What benefits does the US derive from the Cooperative Threat Reduction (CTR) program?**

- Is the United States providing an indirect subsidy for Russian weapons programs?
- Has CTR proven of value overall? How do you evaluate the effectiveness of CTR?
- Are there alternatives to CTR that achieve the same end?
- Is CTR expandable to other countries, such as Pakistan and India?

- Is the CTR expandable to other arenas in addition to nuclear and CW programs, such as BW, or missile technologies, etc?

Priority: 2

Key Terms: cooperative threat reduction (CTR), Russia, United States

**1.20 What might be some additional opportunities for US-Russian missile defense cooperation? (Also see topic 1.3)**

- What can the Russians share with the US?
- What would we be willing to share/sell?
- What are the lessons learned from Russia's reaction to and US handling of the withdrawal from the ABM Treaty?
- What are lessons learned from other programs (e.g. RAMOS, JDEC)?

Priority: 2

Key Terms: Russian missile defense, ABM Treaty, missile defense

**1.21 What are the existing legal and political definitions of Weapons of Mass Destruction (WMD) and what are their implications for deterrence, arms control policy, and national security strategy? (Also see topic 2.1)**

- Should the US adopt a specific definition based on the emerging security environment?
- Should the definition be focused on US response, the WMD's effect, its consequences, and consequence management?
- What are the diplomatic, deterrence, and arms control implications of alternate definitions?
- What is a "nuclear" weapon? A nuclear reaction? How do thermal radiation, EMP, and absence of explosions figure into the definition?

Priority: 2

Key Terms: WMD, legal definitions, nuclear weapons

**1.22 What is the potential impact on regional stability and crisis management of deploying missile defenses in any of the following regions? (Also see topic 1.32)**

- India-Pakistan?
- Northeast Asia?
- Middle East (Syria, Israel)?
- China-Taiwan?

Priority: 2

Key Terms: missile defense, regional stability, crisis management

**1.23 What is an effective US stance toward those countries pressing for a space arms control regime? (Also see topic 1.33)**

- Explore various implications of the current US position: existing arms control agreements are adequate. “There is no space arms race.”
- If the US were to become the focus of a space arms control treaty. What might be the motivation for US participation?
- Are there parallels between space arms control and the law of the sea?

Priority: 2

Key Terms: space arms control, UNCOPUOS, law of the sea

**1.24 What effect does the US stance toward the Comprehensive Nuclear Test Ban Treaty (CTBT) have on achieving broader US nonproliferation goals?**

- Should the US pursue other nuclear test ban initiatives in place of the CTBT?
- Does the US continue to have a credible position in light of world events, in relation to a gradual approach to US nuclear weapons draw down and stringent proliferation controls?

Priority: 2

Key Terms: test ban, proliferation, NPR

**1.25 How important is cruise missile defense to future US security strategy? (Also see topic 2.15)**

- What is the status of existing cruise missile defense capabilities?
- What emerging technologies exist for cruise missile defense?
- What are the costs involved?
- Define the threat

Priority: 2

Key Terms: cruise missiles, missile defense

**1.26 What should the US response be to the resumption of nuclear weapon testing by another state?**

- Resumption of testing by a country that has already tested?
- Testing by a new proliferant?
- US rationale to test or conditions to allow testing?
- What circumstances would lead the US to test or not test a nuclear device?

Priority: 2

Key Terms: nuclear weapons, testing, proliferation



**1.27 What would be the international political, diplomatic, and strategic responses to the first use of a nuclear weapon in combat?**

- Possible consequences of first use of nuclear weapons by the United States or another state during peacetime or conflict
- Circumstances of first use effect and the international response

Priority: 2

Key Terms: nuclear weapons, first-use

**1.28 Are there confidence and security building measure issues in different regions where the US could play a third-party role?**

- Who should lead regional negotiations?

Priority: 2

Key Terms: CSBMs, regional conflict mediation

**1.29 What would be the usefulness of institutionalizing a strategic dialogue with China? What form would such a dialogue take?**

Priority: 2

Key Terms: strategic dialogue, Sino-American relations

**1.30 Has the US policy of restraint, regarding plutonium production, been followed by other states?**

- What actions should be taken regarding plutonium which has become available due to disarmament?
- Suggest and discuss ideas to improve the FMCT

Priority: 2

Key Terms: Plutonium, Nuclear reprocessing

**1.31 Is there a future for tactical nuclear weapons?**

- Can strategic nuclear forces replace tactical nuclear forces?
- Is this a requirement of NATO?
- Is there a remaining need for a sea based tactical nuclear capability?
- How can production policy and force size asymmetries between the US and Russia be resolved?

Priority: 2

Key Terms: SSBNs, SLBNs, START

**1.32 Missile defense systems in Asia (Also see topic 1.22)**

- What are the potential international implications
  - Of deploying missile defenses in Northeast Asia?
  - Of Japanese acquisition and deployment of missile defense systems?
- Explain the Japanese resolution of arms exports policies and their potential integration with US policies
- What are the potential reactions of China to a combined US and Japanese missile defense systems?

Priority: 2

Key Terms: Missile Defense Agency, Ship-based missile defense (SMD), Patriot Advanced Capability-3 (PAC-3)

**1.33 Treaty impacts for operationally responsive space (Also see topic 1.23)**

- What are the Congressional and legal restrictions on responsive launch systems (e.g., Falcon)?
- Are near space treaties in the national interests of the United States?
- Differentiate between outer space and air space
- What are the international sovereignty issues related to near space?

Priority: 2

Key Terms: Near space, Operational responsive spaces, Responsive launch systems, Falcon, CAV

**1.34 How have the requirements for managing post-Cold War nuclear crises evolved given contemporary trends in the international threat environment, such as the proliferation of WMD and ballistic missile technology?**

Priority: 3

Key Terms: WMD, proliferation, rogues states, terrorism